

TABLE 6

SUMMARY OF APPROPRIATE ADJUSTMENTS TO AGREEMENT PROJECT BUDGET

TOTAL PROJECT

Consultant Labor at Direct Payroll Cost	\$ 6,068
Consultant Overhead (161%)	9,770
Rebillable Expenses and Equipment	72,819

Subtotal	\$ 88,657
Consultant's Fixed Fee Adjustment	4,912

Adjustment to Project Budget	\$ 93,569

SUMMARY BY TASK

I. Overall Project Management	\$ 0
II. Phase I Plans/Design	11,025
III. Pilot Study Construction	80,013
IV. Pilot Study Operation	2,531
V. Phase I Data Evaluation	0
VI. Reports	0
VII. Phase II Work Plans	0
VIII. Phase II Design, Plans, and Specs	0

Adjustment to Project Budget	\$ 93,569

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LANDAU
ASSOCIATES,
INC.

Geoenvironmental Engineering and Technologies

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December 18, 1989

Mr. Dean Fowler
Spokane County Utilities Department
North 811 Jefferson
Public Works Building, First Floor
Spokane, WA 99260-0170

RE: COLBERT LANDFILL RD/RA
BUDGET ADJUSTMENTS FOR PHASE I ACTIVITIES

Dear Dean:

Phase I of the Colbert Landfill RD/RA project (Project) has been underway for about eight months. As we have previously discussed, certain Project tasks and cost elements have arisen that are not included in Landau Associates' scope for engineering services and/or the associated cost budget (Attachments A and B, respectively, of the Landau Associates/Spokane County Colbert Landfill Agreement to perform engineering services [Agreement]). Some of these additional cost items were presented in our July 26, 1989 letter; other additional costs have accrued subsequent to the initiation of field activities in mid-August.

Sufficient unbudgeted costs have accumulated to warrant adjustment to the Agreement Project Budget (for the purposes of this letter, the Project Budget is the Agreement Maximum Price less the contingency fund). Accrued and anticipated additional costs and corresponding Project adjustments, are described in the following paragraphs. Project Budget adjustments also include cost decreases for equipment included in Landau Associates' original estimate, but purchased for the Project by the County or Landau Associates at a lower cost than budgeted.

Project Budget adjustments include actual costs (direct labor, overhead, and direct expenses) and additional fixed fee. Fixed fee adjustments vary depending on the type of expense incurred. 16 percent fixed fee adjustment is appropriate for professional services (labor and overhead); a 6.5 percent fixed fee adjustment has been applied to new direct expenses (including subcontractor and subconsultant costs but not equipment purchased directly for the project) as reimbursement for business and occupation (B&O) tax and professional liability insurance coverage; and a 1.5 percent fixed fee adjustment has been applied to equipment purchased directly for the project as reimbursement for B&O tax.

A number of equipment purchases were made for Phase I field activities. In some cases, the actual cost of an item varied significantly from the estimated amount, particularly

for those items the County decided to purchase rather than rent (from Landau Associates). In addition to direct equipment costs, a significant unbudgeted labor expense was incurred by Landau Associates during selection, purchase, assembly, and calibration of the Project-purchased equipment. These unbudgeted labor expenses would normally be covered by Landau Associates' equipment rental fee, which is not applicable to County-purchased equipment. Budgeted versus actual costs, labor costs, and fixed fee and Project Budget adjustments for equipment purchased to date for the Project are presented in Table 1.

Costs in exceedance of the Project Budget were incurred during design and construction of the site staging area. Some of these additional costs were incurred due to unanticipated site conditions (additional clearing and grubbing requirements, rock surfacing, and modified Level D utility trench excavation). Other additional costs were incurred due to unanticipated water system requirements imposed by the Whitworth Water District, and (minor) additional costs were also incurred as a result of the County's decision to purchase a site office for use at the site subsequent to the start-up of field activities. Table 2 summarizes the additional costs incurred during design and construction of the site staging area, and adjustments to the fixed fee and Project Budget.

Landau Associates budgeted for rental of a Project office and a field support trailer (wash car) for Phase I field activities. The County decided to purchase a site office to fulfill long-term Project needs; the County authorized Landau Associates (in a September 14, 1989 letter) to purchase a County-selected commercial manufactured home and incur the costs associated with remodeling this home to suit the Project needs. Table 3 summarizes the costs associated with the purchase, remodel, and set-up of this Project office. As noted in the table, the amount budgeted for rental of a site office and wash car is subtracted as part of the adjustment to the fixed fee and Project Budget.

As described in our July 26, 1989 letter, the County has requested that Landau Associates prepare two work plans not included in the original Agreement's scope (or budget), the Plan for Institutional Controls and the Alternative Water Supply Plan. The Plan for Institutional Controls is about 90 percent complete (it has been reviewed by the regulatory agencies and accepted subject to minor revisions) and the previously identified budget of \$4,500 (including fixed fee) appears to be adequate. A date has not been established for preparation or submittal of the Alternative Water Supply Plan, but the proposed budget (of \$6,200) should be adequate following adjustment to \$6,600 to account for potential 1990 salary increases. Table 4 summarizes the estimated cost and adjustments to the fixed fee and Project Budget for the additional work plans.

As previously discussed in our July 26, 1989 letter, Landau Associates did not budget for winter drilling (April through November 1989 drilling was assumed). Drilling

productivity typically decreases by 30 percent or more during winter (in cold climates) due to more frequent breakdowns, shorter work days, and reduced equipment and personnel mobility; the decreased productivity and associated additional costs are highly variable and are dependent on specific weather conditions for a given winter, equipment type, and other considerations. Landau Associates would prefer to make Project Budget adjustments (if needed) for most additional winter drilling costs after the costs are incurred, because these costs are so weather dependent. These additional costs (may) include additional driller costs, additional equipment and material costs, additional Landau Associates' personnel costs, and an appropriate fixed fee increase. We have identified (and incurred) some cold weather related expenses associated with winterization of the site and anticipated cold weather equipment needs. These items (and the associated costs) are summarized in Table 5.

Independent of the previously described additional costs, drilling expenses are presently running about 10 to 15 percent greater than budgeted, primarily because the Lower Sand/Gravel Aquifer is thicker (by about 20 percent) than anticipated. However, some well construction activities (such as cable tool drilling and well installation) are presently progressing under budget, and it may not be necessary to construct all the wells originally budgeted for the East System due to the absence of the Upper Sand/Gravel Aquifer at some locations. Consequently, it does not appear warranted to adjust the Project Budget for additional drilling costs at this time, beyond those adjustments already described in Tables 1 through 5.

* * * * *

The items described herein represent those we are presently aware of that are not addressed within the Agreement scope or Project Budget that warrant an adjustment to the Agreement; the appropriate adjustments to the Project Budget are summarized in Table 6. We respectfully request that the County amend the Agreement to reflect these incurred or anticipated costs; I have taken the liberty of preparing an Agreement Amendment (attached) for the County's review and concurrence.

The Project contingency fund (per Section VI of the Agreement) is an appropriate source for these costs, with the potential exception of the additional work plans and the site office expenses. These two items represent new scope and may be beyond the intended use of the contingency fund. We understand that the contingency fund is to be used to address increased costs of existing scope items (due to unanticipated conditions, increased subcontractor costs, or minor adjustments to the existing scope) and cost estimate oversights, not to cover new scope items. Consequently, the Maximum Price could ultimately be

exceeded if the contingency fund is used to cover the addition of a significant number of (or costly) new scope items.

I realize that some of these Project Budget adjustments may require some discussion prior to implementing the attached Amendment to the Agreement. Please contact me if you need additional information, or if you would like to discuss these adjustments further.

Very truly yours,

LANDAU ASSOCIATES, INC.

By:

Lawrence D. Beard / sjb

Lawrence D. Beard, P.E.
Project Manager

LDB/sg
No. 124-01.10
attachments



LANDAU
ASSOCIATES,
INC.

Geoenvironmental Engineering and Technologies

88-1278

March 14, 1990

Mr. Dean Fowler
Spokane County Utilities Department
N. 811 Jefferson
Public Works Building, 1st Floor
Spokane, WA 99260-0170

RE: COLBERT LANDFILL RD/RA
COST ESTIMATE FOR ADDITIONAL PHASE I MONITORING WELLS

Dear Dean:

Attached is a cost estimate for the additional Phase I monitoring wells shown on the Site Plan, Figure 1. The purpose of these wells is to better define subsurface hydrogeologic conditions and contaminant distribution within the Lower Aquifer. These wells are not included in Landau Associates' scope of services (as defined in Attachment A of Landau Associates/Spokane County Agreement for Engineering Services), and are considered a new scope item.

The cost estimate for the additional wells addresses the following activities:

- Well construction
- Elevation and location survey
- Ground water sampling and analysis
- Data evaluation and incorporation into the Phase I Engineering Report.

It was prepared based on estimated direct salary and overhead (161 percent) costs and a 16 percent fee (on direct salary and overhead) for Landau Associates and Taylor Engineering services. The administrative costs associated with travel and subsistence, and Landau Associates equipment charges, are covered by our overhead factor. However, an 8 percent administrative fee is applied to rebillables other than subsistence and travel, and to subcontractor/subconsultant charges.

This task can be accomplished on a cost plus fixed fee basis (per our basic agreement), or on a time and expense basis (as is the case for the Lower Aquifer Supplemental Data Collection and Geophysical Survey tasks). We recommend establishing a task budget of \$292,400, which includes a 20 percent contingency. If the County prefers to structure the task

budget on a cost plus fixed fee basis, the 20 percent contingency would be applied to the direct labor costs prior to calculating the labor and administrative fees.

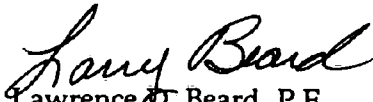
Based on Phase I well construction costs to date, the existing Phase I well construction scope may be completed \$50,000 to \$100,000 under budget. Although the actual cost savings cannot be determined until the basic scope has been completed, the County may wish to consider these potential savings when budgeting for the additional scope defined herein.

To keep the project on schedule, construction of the additional monitoring wells must begin soon. Drilling is scheduled to start about March 26, 1990. Written authorization to proceed is needed from the County by March 22, 1990, to avoid project delays. Please contact me with any questions or if you wish to discuss the proposed additional monitoring wells further.

Very truly yours,

LANDAU ASSOCIATES, INC.

By:


Lawrence D. Beard, P.E.
Project Manager

LDB/sg
No. 124-01.30
attachment

COLBERT LANDFILL RD/RA
Additional Phase I Monitoring Well Costs (a)
Landau Associates Estimated Costs
Job No. 124-01

TASK	Landau Labor (man days)						Total Lbr Man Days	Total Lbr \$1000	Nonlabor (\$1,000)				TOTAL Nonlabor
	Sr. Princ.	Senior	Project	Tech I	Tech II	Support			Travel (b) Subsistence	Other (c) Rebillbls	Equipment	Subcont.	
124-01.30													
1. Pilot Study Construction													
a. Drilling/Well Develop.	3.0	10.0	45.0	67.0	47.0	6.5	178.5	83.0	19.4	35.9	11.6	119.3	188.2
b. Sampling/Analyses		1.5	2.0	3.0	2.0	0.5	9.0	4.2	0.3	0.3	0.4	0.5	1.5
c. Elevation Survey		1.0	0.5			0.5	2.0	1.0				1.4 (d)	1.4
Subtotal	3.0	12.5	47.5	70.0	49.0	7.5	189.5	88.1	19.7	36.2	12.0	121.2	189.1
124-01.50													
2. Phase I Data Evaluation		0.5	2.0		2.5		5.0	2.3		0.1	0.2		0.3
Subtotal	0.0	0.5	2.0	0.0	2.5	0.0	5.0	2.3	0.0	0.1	0.2	0.0	0.3
Total Units (man days)	3.0	13.0	49.5	70.0	51.5	7.5	194.5						
Unit Rate (e)	1105.0	560.0	498.0	464.0	400.0	288.0							
Administrative Fee (8%) (f)										2.9		9.7	12.6
TOTAL COST	3.3	7.3	24.8	32.5	20.6	2.2	194.5	90.4	19.7	39.2	12.2	130.9	202.0

(a) Estimated costs are subject to the assumptions and qualifications in the attached notes.

(b) Includes subsistence, travel and misc. employee expenses.

(c) Includes well construction materials, telephone, postage, and misc. project expenses.

(d) Includes 16% fee on Taylor Engineering direct labor and overhead

(e) Includes direct labor, overhead (161%), and 16% fee on Landau Associates' labor.

(f) 8 percent fee applied to other rebillables and subconsultant/subcontractor services to address business and occupation tax, professional and general liability insurance coverage, and processing costs not covered by Landau Associates' overhead factor.

(g) If task is structured as cost plus fixed fee, breakdown is as follows:

Direct Labor & Overhead (Landau and Taylor)	= \$79,050
Subcontractor Services	= 119,800
Rebillable Expense & Equipment (incl. admin fee)	= 80,900
Fixed Fee	= 12,650

Total Task Budget \$292,400

Task Estimated Cost (g) \$292,400



LANDAU
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Geoenvironmental Engineering and Technologies

RECEIVED

SEP 04 1990

Ans'd

August 30, 1990

Mr. Dean Fowler
Spokane County Utilities Department
North 811 Jefferson Street
Public Works Building, 1st Floor
Spokane, WA 99260-0170

**RE: COLBERT LANDFILL REMEDIAL DESIGN/RISK ASSESSMENT (RD/RA)
BUDGET INCREASE FOR CHANGES IN
PHASE I CONSTRUCTION COSTS
(TASK NUMBER 124-01.75)**

Dear Dean:

This letter documents anticipated increases in Phase I construction costs, as described in the attached letter from Taylor Engineering, and provides a method for the County to authorize expenditure of Project Contingency Funds to address these increases.

These increased construction costs are the result of designing Phase I components to accommodate anticipated Phase II conditions and, therefore, constitute new scope. As such, additional costs resulting from this new scope item should be paid from the Project Contingency Fund. Because the design time associated with these modifications can be charged to existing task budgets for Phase II design, the only additional costs are related to construction. These additional construction costs are the result of:

- Increased pipe diameters to accommodate anticipated Phase II flow rates
- Increased dimensions for the East/West treatment site to accommodate the Phase II treatment facility, and construction of an access road to the treatment site
- Increased pipeline lengths resulting from routing modifications to accommodate permanent rather than temporary pipelines
- Additional vegetation clearing because of changes in pipeline routings and the increase in East/West treatment site dimensions
- Increased costs for the State Route 2 pipeline crossing because: 1) WSDOT required a larger boring than originally anticipated (14-inch diameter anticipated, 24-inch diameter required); and 2) WSDOT changed the excavation shoring requirements after work was initiated, resulting in a contractor change order.

The revised estimated construction cost of \$178,828 is about \$85,000 greater than the Project Cost Budget of \$94,100 (1988 estimate of \$88,760 adjusted by the 6 percent inflation factor). In addition to the actual construction costs, Landau Associates will incur additional expenses for health and safety monitoring during pipeline construction on the landfill. We estimate the additional health and safety monitoring costs to be \$4,800.

We recommend accomplishing this additional work on a time and expense basis plus a percent fee using the billing structure previously agreed to for Task Number 124-01.39 (Additional Phase I Monitoring Wells). This billing structure includes direct salary costs, a 161 percent overhead factor applied to direct salary costs, and a 16 percent fee on combined direct salary and overhead costs. Also, a 7 percent administrative fee will be applied to all rebillables as compensation for administrative costs not covered by our overhead factor. This 7 percent "administrative fee" addresses professional liability coverage (5 percent), Business and Occupation (B&O) tax (1.5 percent), and general liability coverage (0.5 percent).

Landau Associates recommends establishing a task budget of \$90,000. We will track costs for this task separately as Task No. 124-01.75, and will keep the County informed on the financial progress of task expenditures. Contractor rebillables will not be billed to this task until the original Project Cost Budget amount of \$94,100 is reached.

This additional task budget only applies to construction east of State Route 2 (including the highway crossing). Additional costs may also be incurred for the pipeline section west of State Route 2 (to the Little Spokane River), although design of this section is not completed. Additional costs (if any) associated with the section west of State Route 2 will be addressed separately, once design is completed and a cost estimate has been prepared.

Written authorization for this new scope item can be executed by returning this letter to Landau Associates after it has been countersigned by Dennis Scott. Please contact me if you have any questions.

Very truly yours,

LANDAU ASSOCIATES, INC.

By:

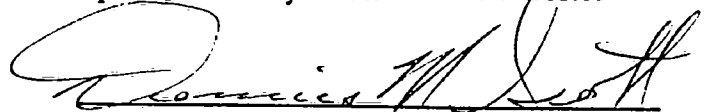

Lawrence D. Beard, P.E.
Project Manager

LDB/tmc
No. 124-01.39
COLBERT\POWL0829.LTR

AUTHORIZATION

Landau Associates is authorized to increase the Project Cost Budget by \$90,000 for new scope Task No. 124-01.75, and will be reimbursed on a time and expense basis subject to the terms and conditions described herein.

Spokane County Public Works Director



Dennis M. Scott, P.E.

8-31-90

Date

COLBERT\FOWL0829.LTR



LANDAU
ASSOCIATES,
INC.

Geoenvironmental Engineering and Technologies

88-1218

48,000

September 28, 1990

Mr. Dean Fowler
Spokane County Utilities Department
N 811 Jefferson Street
Public Works Building, 1st Floor
Spokane, WA 99260-0170

**RE: COLBERT LANDFILL REMEDIAL DESIGN/REMEDIAL ACTION (RD/RA)
BUDGET INCREASES FOR CHANGES IN PHASE 1 CONSTRUCTION COSTS
(TASK NO. 124-01.75)**

Dear Dean:

This letter documents anticipated increases in Phase I construction costs as described in the attached letter from Taylor Engineering, and provides a method for the County to authorize expenditure of project contingency funds to address these increases. These increased construction costs are related to the effluent pipeline section between Highway 2 and the Little Spokane River. These are the result of:

- Increased pipe diameters (from 3-inch to 12-inch) to accommodate anticipated Phase II flow rates
- Increased pipe line lengths (from 900 feet to 1,900 feet) resulting from routing modifications caused by property access and constructability considerations
- Addition of system components such as an air release valve and an energy dissipator (for Phase II flows), and irrigation and fire protection connections.

As such, these additional costs are new scope and should be paid for from the project contingency fund. Because the design time associated with these modifications can be charged to existing task budgets for Phase II design, the only additional costs are related to construction.

The revised estimated construction cost of \$84,338 is about \$39,300 greater than the project cost budget of \$45,050 (1988 estimate of \$42,500 adjusted by the 6 percent inflation factor). We recommend accomplishing this additional work on a time and expense basis, plus a percent fee using the billing structure previously agreed to for Task Number 124-01.75. This billing structure includes direct salary costs, a 161 percent overhead factor applied to direct salary costs, and a 16 percent fee on combined direct salary and overhead costs. Also, a 7 percent administrative fee will be applied to all rebillables as compensation for administrative

costs not covered by our overhead factor. This 7 percent administrative fee addresses professional liability coverage (5 percent), business and occupation tax (1.5 percent), and general liability coverage (0.5 percent). Because this task will not require additional engineering services, additional costs should be limited to actual construction costs and the associated administrative fee.

This additional scope is an extension of the added scope item previously approved by the County as Task No. 124-01.75 (Phase II Pipeline Construction). Consequently, we recommend revising the budget for Task 124-01.75 rather than establishing a new task budget. This results in a budget increase for Task 124-01.75 from \$90,000 to \$138,000. The revised task budget of \$138,000 includes an estimated administrative fee for the total task of \$8,700 because we did not include the administrative fee when calculating the original task budget of \$90,000.

Landau Associates will keep the County informed on financial progress of task expenditures, and will not bill to this task until the original budgeted amount of \$139,150 is reached. Written authorization for this new scope item can be executed by returning this letter to Landau Associates after it has been countersigned by Dennis Scott. Please contact me if you have any questions.

Very truly yours,

LANDAU ASSOCIATES, INC.

By:

Lawrence D. Beard, P.E.
Project Manager

LDB/sg
No. 124-01.39

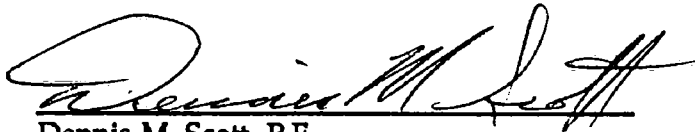
COLBERT\COLB092&LET

\$138,000

AUTHORIZATION

Landau Associates is authorized to increase the project cost budget for Task No. 124-01.75 from \$90,000 to ~~\$188,000~~ and will be reimbursed on a time and expense basis subject to the terms and conditions described herein.

Spokane County Public Works Director


Dennis M. Scott, P.E.

Date

LDB/sg
No. 124-01.39
BUDGET INCREASES FOR CHANGES IN PHASE 1 CONSTRUCTION COSTS
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